

Claims

What is claimed is:

1. An electroactive bender actuator,  
5 comprising:  
a pair of spaced electrodes;  
an electroactive layer disposed at least in  
part between and coupled with said electrodes; and  
an insulating coating operable to be applied  
10 by vapor deposition covering at least a portion of an  
outer surface of said actuator.
2. The electroactive bender actuator of  
claim 1 wherein said coating covers the entire outer  
15 surface of said actuator.
3. The electroactive bender actuator of  
claim 1 wherein said coating is silicon impregnated  
with aluminum oxide.  
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4. The electroactive bender actuator of  
claim 1 wherein said coating is phosphate glass filled  
with chromium carbide.
- 25 5. The electroactive bender actuator of  
claim 1 wherein said coating is  
polytetrafluoroethylene.
6. The electroactive bender actuator of  
30 claim 1 wherein said coating is parylene.

5           8. The electroactive bender actuator of  
claim 1 wherein said electrode layers have outer edges  
that are generally aligned to lie in common planes.

10. An electroactive bender actuator,  
comprising:  
15           a pair of spaced electrode layers having a  
plurality of outer edge surfaces that are generally  
aligned to lie in common planes; and  
              an electroactive layer disposed at least in  
part between and coupled with said electrode layers  
20   and having a plurality of outer edge surfaces.

12. The electroactive bender actuator of claim 11 wherein said coating covers the entire outer surface of said actuator.

13. The electroactive bender actuator of claim 11 wherein said coating is silicon impregnated with aluminum oxide.

14. The electroactive bender actuator of claim 11 wherein said coating is phosphate glass filled with chromium carbide.

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15. The electroactive bender actuator of claim 11 wherein said coating is applied using a vapor deposition process.

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16. The electroactive bender actuator of claim 11 wherein said coating is polytetrafluoroethylene.

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17. The electroactive bender actuator of claim 11 wherein said coating is parylene.

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18. The electroactive bender actuator of claim 11 wherein said outer edge surfaces of said electroactive layer are generally aligned to lie in common planes with said outer edge surfaces of said electrode layers.

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19. A method of manufacturing an electroactive bender actuator having a pair of spaced electrode layers and an electroactive layer disposed at least in part between said electrode layers, said electrode layers and said electroactive layer having respective outer edges, said method comprising:

aligning said outer edges generally in a common plane; and

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coating said outer edges of said electrode layers and said electroactive layer with an insulating material.

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20. The method of claim 19 wherein said coating comprises dipping said electroactive bender actuator in said insulating material and allowing said insulating material to dry on said outer edges of said electrode layers and said electroactive layer.

21. The method of claim 19 wherein said coating comprises coating said outer edges of said electrode layers and said electroactive layer with said insulating material using a vapor deposition process.

22. The method of claim 19 wherein said coating comprises spraying said insulating material onto at least said outer edges of said electrode layers and said electroactive layer.

23. The method of claim 19, further comprising coating at least a portion of an outer surface of said electroactive bender actuator with said insulating material.

24. The method of claim 19 further comprising masking a portion of said electroactive bender actuator with a mask prior to said coating.

25. The method of claim 24 further comprising removing said mask to expose an uncoated surface of said electroactive bender actuator.

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